

PHILIPPINE ANTS OF THE GENUS *ÆNICTUS* WITH
DESCRIPTIONS OF THE FEMALES
OF TWO SPECIES

BY WILLIAM MORTON WHEELER

On returning to the United States from a second sojourn of six years at Dumaguete, on the Island of Negros, Dr. Jas W. Chapman has brought another extensive collection of Philippine ants. Among them are numerous specimens taken from more than 40 different *Ænictus* colonies, and comprising the extraordinary females of two of the species (*Æ. laeviceps* F. Smith and *martini* Forel), together with the larvæ, insect prey and myrmecophiles (*ænictophiles*) of many of the foraging and bivouacking armies. Dr. Chapman will publish his ethological observations in a separate paper. The following taxonomic account, for which he has very generously contributed the specimens, should supersede our notes on the Philippine *Ænicti* published in our joint paper of 1925 and based on rather meager material.

The genus *Ænictus* comprises some 119 described forms (82 species, 11 subspecies, 26 varieties) and is both taxonomically and ethologically the least adequately understood of the larger genera of Doryline ants. It is confined to the Old World, where it replaces the closely allied New World genus *Eciton*, but it has a very wide range, embracing the whole of Africa, the Indomalayan and Papuan Regions and Northeastern Australia. Most of the forms inhabit the Indomalayan Region (42 species, 7 subspecies, 17 varieties), but the African representation is not greatly inferior (34 species, 4 subspecies, 9 varieties). At the extreme limits of the range, however, the number of forms is greatly diminished, there being only six species in Africa north of the Sahara (Morocco, Oran, Tunis) and only three in Australia (Queensland, New South Wales). No *Ænictus* occurs in the Malagasy Region, which also lacks any species of *Dorylus*, the only other Old World genus of the subfamily Dorylinæ.

We must suppose, therefore, that Madagascar was isolated either before this subfamily had been evolved or, more probably, since these ants are very archaic, before they had migrated to East Africa from some hypothetical center of origin in the Northern Hemisphere. Since the females of the Dorylinae are clumsy, apterous insects, unable to found colonies without the aid of workers, we can hardly assume that they have been introduced into islands either with flotsam and jetsam or by human agencies. To account for the several species on the East Indian and Papuan Islands and in Australia, we must, therefore, suppose that they reached their present habitat before these islands were separated from the Asiatic mainland.

In *Ænictus*, as in the other genera of Dorylinae, the correlation of the workers, females and males of any particular species, unless found together in the same colony, is impossible. The singular females are among the rarest of insects in collections, which usually consist of series of workers taken from foraging columns or of a few males taken at lights. Hence most of the described forms are based either on workers or on males only, so that the actual number of species is undoubtedly considerably less than the number recorded in our catalogues. The latter show that 45 forms (28 species, 1 subspecies, 16 varieties) have been described from worker specimens exclusively, 68 (48 species, 10 subspecies, 10 varieties) from males only, and that only three species have been described from both worker and male. Two are known only from single female specimens and one from both worker and female. The following table gives the numbers of the described forms according to caste and geographical distribution:

A study of the specimens and descriptions of the known workers, and especially of the females and males indicates that the genus *Ænictus* is decidedly heterogeneous, though previous to 1929, when I described a species, *Æ. silvestrii* from Penang Island, as representing a distinct subgenus, *Parænictus*, no attempt had been made to subdivide the genus. But that its species are sufficiently diverse to justify further subdivision is apparent from the following considerations: first, the males show great differences in the structure of the head, scapes, petiole,

	Species	Subspecies	Varieties	Totals
No. of Forms	82	11	26	119
Known from workers only	28	1	16	45
Known from males only	48	10	10	68
Known from males and workers only	3	—	—	3
Known from females only	2	—	—	2
Known from worker and female only	1	—	—	1
Indomalayan forms	42	7	17	66
African forms	34	4	9	47
Papuo-Australian forms	6	—	—	6

legs and genitalia; second, certain peculiar males, comprising seven species and known only from the Congo, have been assigned to a separate genus *Ænietogeton* by Emery and Santschi, though very probably the cospecific workers of some of them have been described already as species of *Ænictus*; and third, the females of *Æ. laviceps* and *martini*, discovered by Dr. Chapman and described below, differ so widely from the three females previously known that they would seem to belong to a distinct genus, though Forel and Emery have not hesitated to place their workers in the genus *Ænictus*.

The three known females of *Ænictus* were all taken in Africa. In 1885 Ernest André described from Oran a peculiar ant which he regarded as a worker and named *Alaopone abeillei*. Emery, in 1895, renamed it *Dorylus (Shuckardia) abeillei* on the basis of the description, but on seeing the specimen while he was visiting André, he concluded that it must be an *Ænictus*, and, therefore, described and figured it in two of his papers (1901, 1904). I reproduce his sketches of the insect (Fig. 1), which measures 8 mm. and is reddish yellow. It closely resembles the females of the subgenus *Acamatus* of the genus *Eciton*, except that its antennæ are 10-jointed, instead of 12-jointed, the thorax more slender and especially the head and petiole much narrower. A second *Ænictus* female was described and figured by Emery.

in 1914 as that of *Æ. vaucheri*. It was taken in Morocco and measured 9 mm. Its color was reddish brown. In structure it closely resembled *Æ. abeillei*, but its head was broader and more quadrate, with more clavate antennal scapes. Both of these females were obviously virgins, or at any rate had undeveloped ovaries, since their abdomens exhibited no distension of the in-

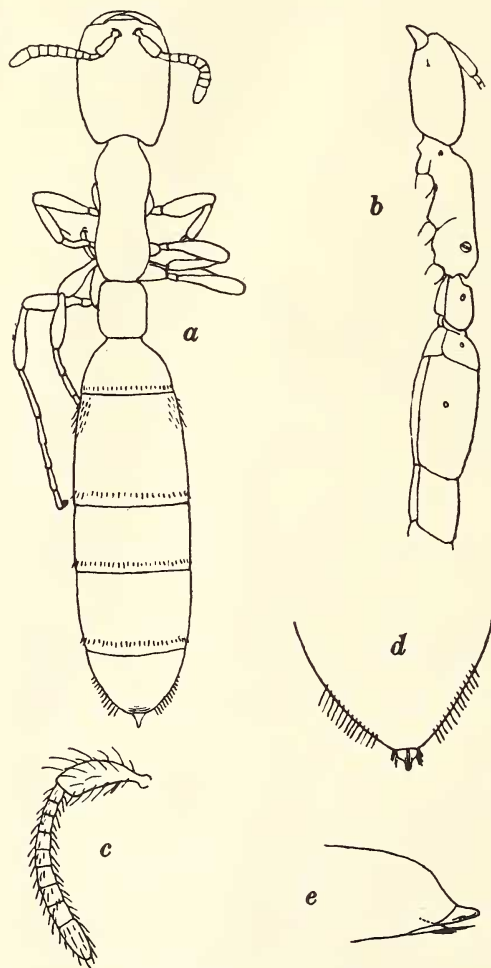


FIG. 1. *Enictus abeillei* Ern. André. Female. *a*, dorsal view of type; *b*, lateral view of body except posterior end; *c*, antenna; *d*, posterior end of abdomen, dorsal view; *e*, same in profile. (After C. Emery.)

tersegmental membranes. The third female is that of *Æ. congolensis*, and was described by Santschi in 1917 from a specimen taken in Gaboon with the cospecific worker. It has a greatly en-

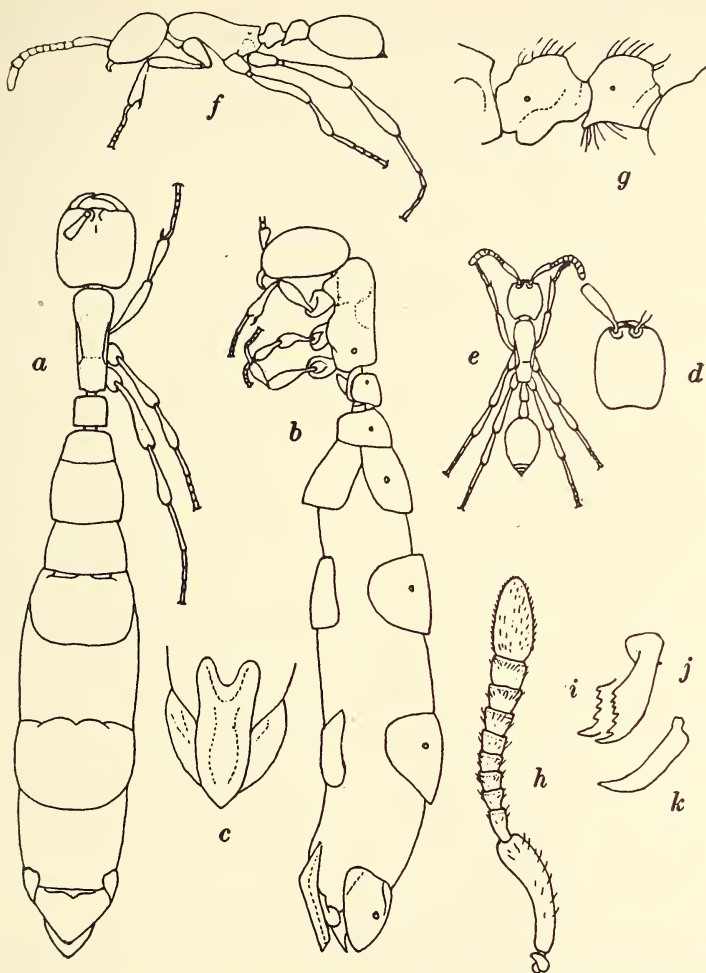


FIG. 2. *Aenictus congolensis* Santschi; a, female, dorsal view; b, same in profile; c, hypopygium of same; d, head of worker, dorsal view; e, worker, dorsal view, drawn to the same scale as a and b; f, worker more enlarged in profile; g, pedicel of same in profile; h, antenna of same; i, mandible of same; j, same of another worker specimen; k, mandible seen from above. (After F. Santschi.)

larged abdomen and was clearly in an active egg-laying condition when captured (Fig. 2). It measured 13.5–14 mm. and is of a deep reddish brown color like the worker, which measures only 2.4–3.4 mm. In structure this female resembles the two from North Africa but the head is as broad as long and has more rounded sides.

It happens that the workers of both *laviceps* and *martini* are closely related and belong to a group of species characterized by peculiar pale patches simulating large eyes at the posterior corners of the head. In Forel's and Bingham's dichotomic tables of *Ænictus* workers these species and their allies are first separated off by this character as most readily identifiable among the mass of species. Indeed, the first *Ænictus* worker to be described by F. Smith in 1858 belonged to this group and was no other than *laviceps* from Borneo, though he made it the type of his genus *Typhlatta*. Unfortunately the genus *Ænictus* was based by Shuckard (1840) on the male of *Æ. ambiguus* from Hindustan, and this is one of the many species of which the worker is still unknown. Since, therefore, we are unable to give a precise characterization of two of the three castes of the type species of *Ænictus sens. str.*, we are at present debarred from a thoroughgoing subdivision of the genus into subgenera. All we are able to do is to resuscitate Smith's name *Typhlatta* as that of a single subgenus and to assign to it the above-mentioned group of species with workers characterized by the pale coloration of the posterior corners of the head and females like those described below for *laviceps* and *martini*. The following table may serve to differentiate the workers of the various known forms of *Typhlatta*, all of which are closely interrelated and confined to the Indomalayan Region:—

WORKERS OF *ÆNICTUS* OF THE SUBGENUS *TYPHLATA*

- | | |
|---|---------------------------------|
| 1. Pale patches at the posterior corners of the head on distinct, elongate oval, tubercle-like elevations | 2 |
| Pale patches not on such elevations | 3 |
| 2. Head narrow; base of epinotum subopaque, longitudinally rugose-punctate throughout | <i>martini</i> Forel |
| Head broader and more convex beneath; base of epinotum smooth and shining above | <i>luzoni</i> Wheeler & Chapman |

3. Entire thorax and petiole finely and densely punctate4
At least the pronotum smooth and shining5
4. Pronotum feebly shining*binghami* Forel
Pronotum more densely punctate and opaque like the remainder of the
thoraxvar. *gatesi* Wheeler
5. Head oval, narrowed and rounded behind, with convex sides and with-
out a posterior border distinct from the occipital, or articular border,
which is narrower than the anterior border6
Head more oval-rectangular, with distinct posterior corners and the
posterior as broad or nearly as broad as the anterior border.....8
6. Petiole reticulate, armed beneath with a well-developed spine; post-
petiole broader than the petiole7
Petiole smooth, unarmed beneath; postpetiole not broader than the
petiole*gracilis* Emery
7. Base of epinotum feebly convex in profile, forming a right or obtuse
angle with the short declivity*laeviceps* F. Smith
Base of epinotum horizontal, forming an acute angle with the declivity,
which is longervar. *smythiesi* Forel
8. Petiole armed beneath with a transparent spine; epinotal angle pro-
nounced9
Petiole armed beneath with a truncated, dependent, transparent lamina;
epinotal angle more rounded *alticola* sp. nov.
9. Thorax scarcely impressed in profile in the mesoëpinotal region; petiole
without a spine beneath*elongatus* Karawaiew
Thorax with distinct mesoëpinotal impression; petiole armed with a
spine beneath10
10. Head very distinctly longer than broad11
Head scarcely longer than broad.

fergusoni Forel var. *breviceps* Forel
11. Epinotal angle distinctly rounded.

fergusoni var. *karawaiewi* Wheeler and Chapman

Epinotal angle pronounced12
12. Petiolar and postpetiolar nodes as broad as long, smooth and shin-
ing13
At least the petiolar node longer than broad14
13. Base of epinotum distinctly convex, densely sculptured through-
out*fergusoni* Forel (typical)
Base of epinotum sloping upward posteriorly, its anterior two-thirds
smooth and shiningvar. *hodgsoni* Forel
14. Slightly smaller than the two preceding forms; both nodes of the
pedicel longer than broadvar. *piltzi* Forel
Slightly larger than the typical *fergusoni*; petiolar node slightly longer
than broad, densely reticulatevar. *montanus* Forel

Ænictus (Typhlatta) læviceps F. Smith.

(Fig. 3)

FEMALE (undescribed). Length 8.5 mm.

Head large, convex above and below, decidedly broader than long, broader in front than behind, with very convex cheeks and broadly rounded posterior corners, divided by a deep median groove extending from the very small,

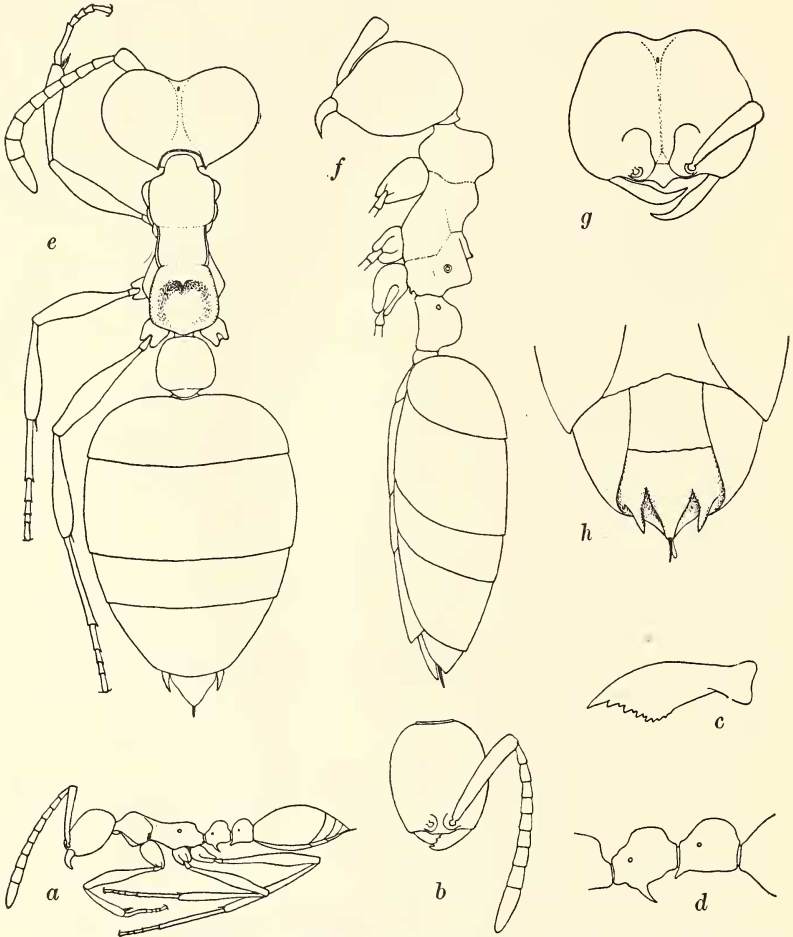


FIG. 3. *Ænictus læviceps* F. Smith. a, worker in profile; b, head of same, dorsal view; c, mandible; d, pedicel of same, in profile; e, female, dorsal view, drawn to same scale as the worker (a); f, female in profile; g, head of same, dorsal view; h, tip of abdomen of same, ventral view, showing hypopygium.

triangular frontal area to a point where it bifurcates just in front of the strongly marginate occipital border. Antennal foveæ large and deeply impressed. Genal carinæ indistinct. Visual organs represented only by a minute ocellus in the frontal groove. Clypeus very short, its anterior border straight on each side, in the middle flattened and projecting as a blunt triangular point. Mandibles less than half as long as the head, subfalcate, slender, broadest in the middle, with pointed tips and microscopically denticulate apical borders. Scapes about half as long as the head, slender at the base, gradually widening apically; funiculi only slightly thickened towards their tips, the first joint twice, the second to sixth fully one and one-half times as long as broad, the seventh and eighth shorter but longer than broad, together as long as the somewhat pointed terminal joint. Thorax stout but much narrower than the head, broad through the pro- and epinotum, narrowed and laterally constricted in the mesoëpinotal region, without promesonotal and mesoëpinotal sutures though their positions are indicated by impressed lines. Pronotum broader than long, its dorsal portion high and subcuboidal, flattened in the middle with steeply sloping anterior and posterior surfaces, the anterior angles convex and swollen, visible in dorsal view as a rounded projection on each side of the subcuboidal dorsal portion. Mesonotum shorter than the pronotum, concave on each side, in profile with a strong dorsal convexity and concave, sloping posterior surface. Epinotum broader than the pronotum owing to a strong swelling on each side in the sternal region, the base subtrapezoidal, somewhat broader and more rounded behind than in front, with a deep concavity in the center. The anterior portion of the base is more convex and projects into the concavity as a small, central, pointed tooth. In profile this dentate surface slopes upward and backward. The border of the larger, posterior concave portion has a similar inclination and forms a right angle with the straight, flattened and perpendicular declivity. Seen from behind this surface is narrow below and broad above, with its dorsal border rather deeply and sinuately excised in the middle and the lateral angles prominent and somewhat rounded. Epinotal spiracles large and circular; metasternal angles with a small, acute, upturned tooth near the insertion of the hind coxa. Petiole from above nearly as long as broad, somewhat broader behind than in front, with rounded sides; the node in profile slightly flattened anteriorly and dorsally, more rounded behind, the ventral surface of the petiole feebly concave with scarcely an indication of a tooth at its anterior end. Gaster large and broad, subtriangular, rounded anteriorly, tapering to a point behind, strongly compressed dorsoventrally, with the first and especially the third segment decidedly shorter than the second and fourth. Pygidium small, triangular, with subtruncate tip; hypopygium with a raised triangular median portion and a stout, slightly curved tooth on each side. Sting small. Legs rather long and slender; the femora and tibiæ slender at the base and clavate.

Smooth and shining; mandibles sparsely and indistinctly punctate. Gaster covered uniformly with coarse, transverse, piligerous punctures,

except the median portion of the first segment and a large median, triangular area at the base of the fourth segment, which are very smooth and shining. Pygidium very finely shagreened. Scapes and legs with small, sparse, piligerous punctures.

Hairs pale yellow, rather long, sparse, slender, flexuous, and pointed on the coxæ, legs, scapes, mandibles and clypeus, absent on the head, thorax and petiole, with the exception of four hairs on the front; gaster, excepting the two very smooth areas above mentioned, invested uniformly with short, obtuse, stiff, oblique, glistening hairs.

Black; mandibles, clypeus, funiculi and pygidium red; hypopygium dark brown; scapes and legs, including the coxæ, ivory yellow; bases of coxæ reddish, their tips, the trochanters, the tips of the femora and basal half of each tibia dark brown. Head, thorax and gaster with the following brownish ivory-yellow maculation: a large transverse spot near the middle of each side of the head, representing the yellowish or reddish spot of the worker, but more anterior; a quadrangular spot, divided longitudinally by a median brown line, covering the disc of the pronotum; another on the base of the epinotum behind its anterior dentate surface; a large reniform spot, emarginate behind, on the dorsal surface of the petiolar node; an arcuate spot apparently composed of four confluent circular spots at the base of the first gastric segment and a pair of small transverse and less sharply defined spots more posteriorly on the same segment; second segment with two pairs of transverse and more laterally situated spots, the anterior pair at the anterior border of the segment; third and fourth segments each with a single pair of similar markings. The borders of the various segments, both dorsally and ventrally, are also distinctly yellowish, the median surface of the venter reddish, and the front of the head with a tinge of the same color.

Described from a single specimen taken by Dr. Chapman on May 23, 1923, from a colony that had been making raids for two days on other ants and miscellaneous insects near his camp in the mountains back of Dumaguete. This colony finally bivouacked under an overhanging rock and when a fire was built very near it and it again began to migrate, the female, many workers, much brood and a number of ænietophiles were captured. The contracted and strongly overlapping segments of the gaster of the female indicate that she was not in an actively egg-laying condition, and the many hundreds of workers and full-grown larvæ in the colony indicate that she must be either its old and exhausted mother or a young substitute queen that had not yet entered on her period of great fecundity. Her fresh and unabraded appearance would seem to argue in favor of the latter supposition.

Many of the workers belonging to this colony differ from those taken by Dr. Chapman from ten other colonies in the same locality in having a smooth, shining area on the base of the epinotum. Since this character is not constant I merely call attention to it as an incipient variety without giving it a name. All the specimens taken about Dumaguete are slightly larger and darker than series of *laviceps* in my collection from Luzon Island (F. X. Williams), Java (K. Dammerman) and Borneo (Hewitt and Brooks).

***Aenictus (Typhlatta) martini* Forel.**

(Fig. 4)

FEMALE (undescribed). Length 6.5 mm.

Head much like that of the female *laviceps*, but narrower, though distinctly broader than long, with less convex cheeks, only slightly broader in front than behind, also deeply divided by a longitudinal groove, which, however, disappears before reaching the strongly marginate occipital border. There are no traces of ocelli. Antennal foveæ deep. Clypeus as in *laviceps*, but the median projection of its anterior border much less pronounced. Mandibles somewhat shorter and stouter but of the same configuration. Antennæ similar, the scapes somewhat more rapidly enlarged and more cylindrical at their tips; the several funicular joints of about the same lengths. Thorax much simpler; narrower than the head and both dorsally and laterally constricted at the mesonotum. Pronotum about one and one-third times as long as broad, elliptical, with evenly convex and rounded dorsal and lateral surfaces, the inferior angles scarcely swollen. Mesonotum short, broader than long, sloping to a rather deep and acute transverse impression representing the mesoëpinotal suture. Epinotum broader than the pronotum, subrectangular and as broad as long, in profile evenly convex and rounded, without differentiated basal and declivous surfaces. Epinotal spiracles large, circular, impressed. Metasterna swollen anteriorly, the metasternal angles above the insertion of the hind coxæ with a very minute denticle. Petiole subquadrate, as broad as long, scarcely broader behind than in front, in profile with low evenly rounded node, the ventral surface nearly straight, unarmed. Gaster very similar to that of *laviceps*, but the first segment is less transverse anteriorly and more narrowed and constricted at the petiolar articulation. Pygidium shorter and more truncated at the tip; hypopygium with much shorter and smaller lateral teeth and its median raised area flattened, elongate, with subparallel borders. Sting well-developed. Legs rather long; femora and tibiæ clavate.

Smooth and shining, the whole body covered with sparse, piligerous punctures, which are most distinct on the dorsal surface of the thorax, petiole and gaster where they are raised above the general surface so that the hairs appear to arise from very minute tubercles.

Hairs glistening white, abundant, erect or suberect, long, curved, of uneven length on the head, thorax, legs and scapes, more uniform, and somewhat shorter on the gaster, which they cover, except for a smooth area around the insertion of the petiole and a median smooth area on the middle of the fourth segment. Even the funiculi have long, though oblique, hairs. Those on the middle of the gaster and the dorsal surface of the head, thorax and petiole are flattened, with long, slender tips, and are black with white bases and tips. The hairs on the appendages are more delicate and of the usual structure.

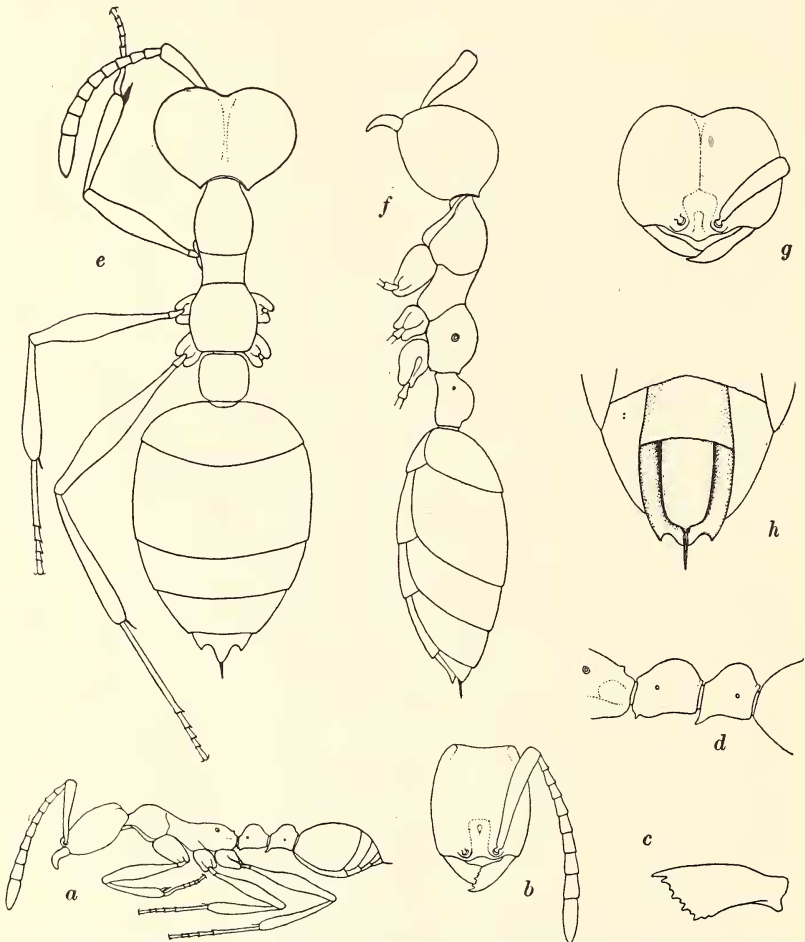


FIG. 4. *Enictus martini* Forel. *a*, worker in profile; *b*, head of same, dorsal view; *c*, mandible; *d*, pedicel; *e*, female, dorsal view, drawn to same scale as worker (*a*); *f*, female, in profile; *g*, head of same, dorsal view; *h*, tip of abdomen, ventral view, showing hypopygium.

Black; mandibles, clypeus, cheeks, gula and large spots at the posterior corners of the head and representing the ivory yellow spots of the worker, the sides of the pronotum, the coxæ, femora and tibiæ castaneous; tarsi, funiculi and tips of tibiæ and scapes paler and more reddish. Borders of gastric segments both dorsally and ventrally, pygidium and hypopygium broadly yellowish brown, with golden reflections.

Described from a single specimen taken by Dr. Chapman on January 3, 1926, as she was being dragged by her workers over a banana leaf lying on the ground, after the colony had been stirred up and induced to migrate from its temporary quarters in a great pile of earthworm castings. As shown by the contracted gaster, the insect is in the same non-reproductive phase as the *laviceps* female described above. The colony from which this *martini* female was taken contained no larvæ. Another queen of this species was captured by Dr. Chapman on April 4, 1924, in the same locality in a bivouacking colony, but was left in the Philippines.

The collections received from Dr. Chapman contain numerous workers of *martini* from twenty different colonies and exhibit some variation in size and coloration, the body being brownish-red instead of black in some cases, but both forms may occur in the same colony, so that the paler individuals may be either nest variations or due to immaturity.

Aenictus (Typhlatta) alticola Wheeler and Chapman sp. nov.

(Fig. 5, a-d)

WORKER. Length 4-4.5 mm.

Distinctly larger and stouter than *laviceps* for which it may be readily mistaken, but head as broad behind as in front, with distinct though nontuberculate and rounded posterior corners, the posterior border with a slight though distinct convexity in the middle, the occipital border marginate. Anterior clypeal border straight and transverse in the middle, bearing a series of about six minute denticles. Mandibles triangular, with oblique apical borders, with a strong apical tooth and five unequal, widely spaced basal denticles. Antennal scapes not reaching the posterior border of the head, gradually enlarged and only slightly flattened at their tips; funiculi much as in *laviceps*, first joint slightly longer than the second. Thorax differing in having the epinotal angle more obtusely rounded. Petiole with a distinctly more convex and rounded node in profile, armed anteroventrally with a dependent, transparent, truncated lamina instead of a spine. Postpetiole as in *laviceps*, with a small, acute, forwardly directed tooth at its anteroventral border.

Sculpture and pilosity much as in *laviceps*, but the meso- and epinotum more shining, owing to the less pronounced punctuation. Petiole smooth and shining. Pilosity as in *laviceps*, but the hairs on the legs somewhat more numerous, especially on the scapes and femora. Color also as in *laviceps*, with the light patches on the sides of the head brownish ivory yellow, rather small and somewhat nearer the posterior corners.

Described from numerous workers taken by Dr. Chapman from a single large colony found raiding in Polis Pass, Bontoe, Luzon, at an altitude of 6,000 feet.

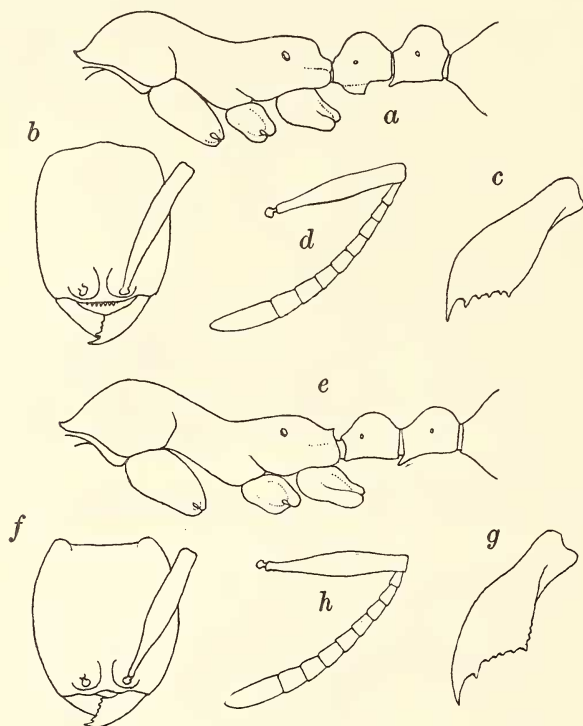


FIG. 5. *a*, worker *Aenictus alticola* sp. nov.; thorax and pedicel in profile; *b*, head, dorsal view; *c*, mandible; *d*, antenna; *e*, worker *Aenictus luzoni* Wheeler and Chapman, thorax and pedicel in profile; *f*, head, dorsal view; *g*, mandible; *h*, antenna.

***Aenictus (Typhlatta) luzoni* Wheeler and Chapman**

(Fig. 5, e-h)

WORKER. Length 4-4.5 mm.

The following remarks may be added to the previously published description: Resembling the worker of *martini* Forel in

having the posterior corners of the head distinctly tuberculate, but the stature is larger and the head is decidedly broader, flattened above, with much more convex sides and the posterior border transverse and nearly straight between the projecting posterior corners. The mandibles have a distinct denticulate angle between the basal and apical borders; the latter with a strong terminal tooth, a much smaller subterminal tooth and several thinly set basal denticles. Funicular joints 1 and 2 subequal, 7 and 8 scarcely longer than broad, the terminal joint longer than the two penultimate subequal joints together. Thorax very similar to that of *martini* but the saddle-like impression of the mesonotum is somewhat deeper. Petiole unarmed beneath, the postpetiole with a small, anteriorly directed tooth near the articulation with the petiole.

Sculpture, pilosity and color very much as in *martini*, but the base of the epinotum is conspicuously smooth and shining. The mesonotum and mesopleuræ are also more shining, more distinctly longitudinally rugulose and less punctate. The ivory yellow spots on the tuberculate posterior corners of the head are more extensive, covering nearly half of its sides. Funiculi, tarsi and articulations of legs paler and more reddish.

The types of this species are from Illicos, Norte Province, Luzon. Dr. Chapman has now secured numerous specimens from two colonies at Dumaguete, on Negros Island.

The following Philippine forms, which must be left provisionally in the subgenus *Ænictus sens. str.*, may be readily separated by means of the following key:

1. Head and thorax blackish or dark brown, opaque and densely sculptured2
 Head and pronotum smooth and shining; color yellow or yellowish red3
2. Pedicel, gaster and appendages brown. Length 2.8-3 mm.
 aratus Forel subsp. *nesiotis* subsp. nov.
 Pedicel, gaster and appendages reddish. Length 2.5-2.8 mm.
 var. *fraterculus* var. nov.
3. Thorax distinctly impressed in the mesoëpinotal region. Length at least 2.5 mm.4
 Thorax not impressed in the mesoëpinotal region. Length 1.6 mm.
 piercei sp. nov.

4. Slender species; head subelliptical, distinctly longer than broad; antennal scapes reaching beyond the posterior border of the head; petiole with a round ventral swelling; femora and tibiae not incrassated.

camposi Wheeler & Chapman

More robust species; head subrectangular, scarcely longer than broad; antennal scapes not reaching beyond the posterior border of the head; petiole with a transparent, truncated ventral lamella; femora and tibiae incrassated *powersi* sp. nov.

Ænictus (*Ænictus*) *aratus* Forel subsp. *nesiotis* Wheeler and Chapman, subsp. nov.

(Fig. 7, a-d)

WORKER. This form, which we formerly referred to the typical *aratus*, proves to be distinct. It is only 2.8-3 mm. long and is therefore perceptibly smaller than the type which measures 3.3-3.5 mm. The thorax is

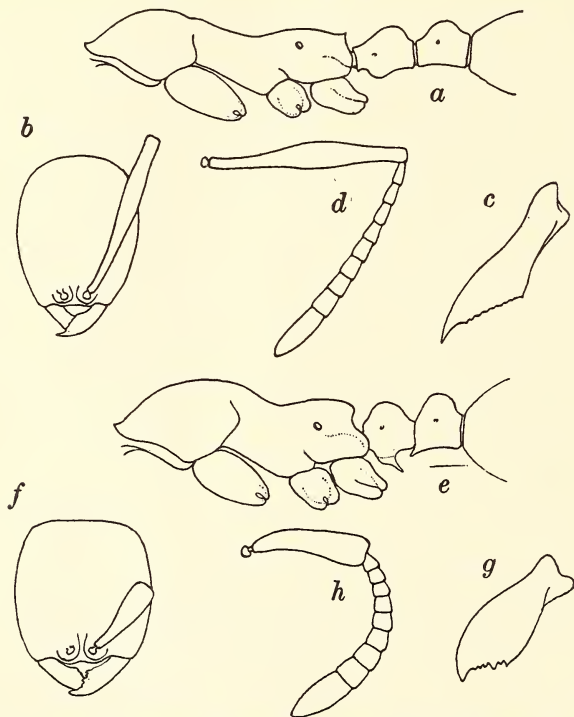


FIG. 6. a, worker *Ænictus camposi* Wheeler and Chapman, thorax and pedicel in profile; b, head, dorsal view; c, mandible; d, antenna; e, worker *Ænictus powersi* sp. nov., thorax and pedicel in profile; f, head, dorsal view; g, mandible; h, antenna.

even less impressed in the mesoëpinotal region so that the dorsal outline in profile is very nearly straight. The pedicel is somewhat more slender. The head, thorax and pedicel are more opaque and the thorax both dorsally and ventrally is more coarsely longitudinally rugose. The color is also decidedly darker, the head and thorax being black or brownish black, instead of reddish brown and the gula, pedicel, gaster and appendages are also darker and less reddish, the greater portion of the first gastric segment being concolorous with the head and thorax.

Numerous specimens from three colonies found at Dumaguete. One of these, with numerous larvæ was nesting in a brush-pile; another, also with brood, was occupying earthworm burrows.

Ænictus (Ænictus) aratus subsp. *nesiotis* var. *fraterculus* Wheeler and Chapman, var. nov.

WORKER. Length 2.5–2.8 mm.

Averaging smaller than the preceding form, and differing in color, the pedicel, gaster and appendages being brownish red and contrasting with the blackish brown head and thorax. Tarsi and borders of gastric segments yellowish. Mandibles and in some specimens also the anterior portion of the head, more or less reddish brown.

Numerous specimens from a single colony taken at Dumaguete.

Ænictus camposi Wheeler and Chapman

(Fig. 6, a–d)

A number of workers taken at Dumaguete from a small colony that was foraging in the open on the ground.

This form is very closely related to *Æ. wroughtoni* Forel, of India, but differs in having the epinotal declivity marginate on the sides and above and in having the mesopleuræ and epinotum subopaque and finely and densely punctate, instead of smooth and shining. Perhaps *camposi* should be regarded as a subspecies of *wroughtoni*.

Ænictus (Ænictus) piercei Wheeler and Chapman, sp. nov.

(Fig. 7, e–g)

WORKER. Length 1.6 mm.

Distinctly smaller than *Æ. javanus*, which it resembles in form, sculpture and coloration. Head not longer than broad, with more rounded sides and without produced posterior corners, with straight instead of concave posterior border. Antennæ short, funiculi reaching only to the middle of the head, funicular joints 2–6 transverse, much shorter than in *javanus*.

Dorsal outline of thorax in profile even more nearly straight and continuous, with the epinotum forming a rounded instead of an acute rectangle. Petiole and postpetiole distinctly broader in proportion to their length. Femora and tibiæ more incrassated.

Smooth and shining, with fine, sparse piligerous punctures, mesopleuræ, epinotum, sides and ventral portions of petiole and postpetiole, subopaque, finely and densely punctate.

Pilosity white, uneven, sparse on the upper surface of the body, shorter on the appendages.

Yellow; head, thorax and pedicel more reddish but decidedly paler than in *javanus*; anterior border of head and mandibles slightly brownish.

Described from two specimens taken by Dr. W. D. Pierce at Cadiz, P. I. This species is also clearly different from *Æ. brevicornis* Mayr and *ceylonicus* Mayr.

Ænictus (*Ænictus*) *powersi* Wheeler and Chapman, sp. nov.

(Fig. 6, e-h)

WORKER. Length 2.5-3 mm.

Head scarcely longer than broad, subrectangular, nearly as broad behind as in front, with feebly rounded sides and straight posterior border, the posterior corners rounded, not produced. Frontal and genal carinæ very short, the latter not dentate. Clypeus concave, with narrow, translucent anterior border, subtriangular, with a large blunt apical tooth and several minute, irregular basal denticles on the terminal border, the external border convex. Antennæ short, the scapes thickened apically, reaching to the posterior third of the head, first funicular joint small, as long as broad, joints 2-8 slightly broader than long, terminal joint a little longer than the two penultimate joints together. Pronotum slightly flattened above, the mesonotum short, sloping to the mesoëpinotal constriction, which is moderately pronounced. Epinotum with convex base and concave declivity, the boundary between the two developed as a blunt point. Petiole nearly as broad as long, its node evenly rounded and hemispherical, the ventral surface with a transparent lamina, produced behind as a downwardly and backwardly directed spine. Postpetiolar node resembling the petiolar node but somewhat broader and slightly broader than long, anteroventrally with a well developed tooth, which is directed downward and forward. Gaster regularly elliptical. Legs with incrassated femora and tibiæ.

Mandibles opaque, finely and densely shagreened. Remainder of body smooth and shining, with fine, sparse, piligerous punctures, except the mesopleuræ, mesoëpinotal constriction, sides of epinotum and ventral surfaces of the petiole and postpetiole, which are subopaque, finely and densely punctate.

Hairs white, uneven, rather delicate, sparse on the body, short on the appendages.

Mandibles, antennal foveæ and anterior border of head reddish brown, remainder of head, antennal scapes and thorax yellowish red; pedicel, gaster and legs, including the coxæ, yellow; antennal funiculi brown, except the terminal joint, which is yellowish red like the scapes.

Described from several workers taken near Dumaguete at an altitude of 1,800 feet from a single colony under a piece of wood in a garden. This species is hypogæic.

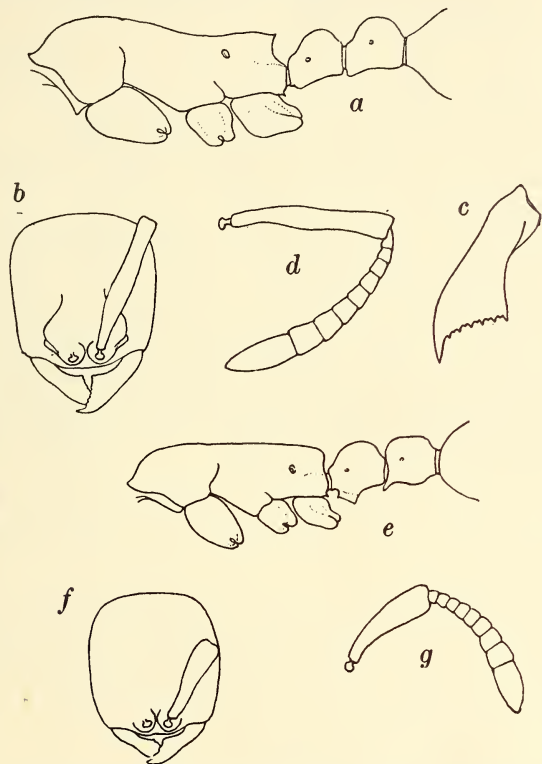


FIG. 7. *a*, worker *Aenictus aratus* Forel subsp. *nesiotis* subsp. nov., thorax and pedicel in profile; *b*, head, dorsal view; *c*, mandible; *d*, antenna; *e*, worker *Aenictus piercei* sp. nov., thorax and pedicel in profile; *f*, head, dorsal view; *g*, antenna.

Dr. Chapman has also secured several isolated males of *Aenictus* at lights. All or some of these specimens are probably the unknown males of the above recorded species. Before describing them, it seems best to await the results of his observa-

tions on *Ænictus* colonies during his coming sojourn in the Philippines.

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